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PREFACE

The rebranding of 8 modules has been approved by the UMP Senate in February 2016. The 8 modules comprise:

i. Philosophy of Science and Ethics in Research
ii. Research Overview
iii. Literature Review
iv. Methodology
v. Data Collection and Analysis
vi. Scientific Writing
vii. Preparation for viva-voce
viii. Conceptual Paper

8 modules are one of the Institute of Postgraduate Studies (IPS) initiatives in helping students to understand ways and means to carry out research at Master's and PhD level. There are 2 sets of 8 modules provided by IPS in accordance with the technology and engineering cluster. These 8 modules are intended to help students in conducting systematic research owing to its utmost importance in determining the effectiveness and efficiency of the research process. The 8 modules shall help students to understand the research problem and identify the areas of research. The modules also assist students on how to write a literature review in order to understand how other researchers approach, define or manage the problem to keep the research pertinent to what is current in the field. In addition, 8 modules also facilitate students to understand the methods of collecting data in an organized and controlled way to achieve valid results, analyze the data according to the considered problem and make conclusions. Therefore, IPS hopes that these modules will be able to provide some insights and benefit students in conducting research at Master's and PhD level.

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UNIVERSITI MALAYSIA PAHANG

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MODULE DESCRIPTION

This module is developed to assist students in the Research Methodology section for the Social Sciences. This module would mainly cover the research methodology section, although some basic areas such as the problem statement, research question, and hypothesis would also be covered briefly. Students would be able to differentiate between a quantitative research and a qualitative research. Through this module, students would have a basic understanding of what goes into research methodology and its components. One of the features of this module is also research design, where students would be able to choose which design within quantitative or qualitative research methodology that would suit their research purpose. This module consists of theories, examples and student activities consisting of matching and scenarios laid out so that students are able to practice what they have learned.

MODULE OUTCOME

After reading and practicing in this module, students should be able to:

1. Understand what research is and tell the differences between different types of research knowledge.
2. Be able to differentiate between quantitative and qualitative research.
3. Write null and directional hypothesis.
4. Know the differences between a quantitative research question and a qualitative research question.
5. Differentiate different types of sampling and the purpose for each sampling.
6. Choose a suitable data collection tool for their research.
7. Differentiate between non-experimental, quasi-experimental and experimental designs in quantitative studies.
8. Understand the approaches in a qualitative study.

MODULE SUBTOPIC

- ✓ Topic 1 Research
- ✓ Topic 2 Research Problems, Questions & Hypotheses
- ✓ Topic 3 Variables and Measurement
- ✓ Topic 4 Sampling
- ✓ Topic 5 Validity and Reliability
- ✓ Topic 6 Data Collection Methods
- ✓ Topic 7 Quantitative Research Design
- ✓ Topic 8 Qualitative Research Methodology
- ✓ Conclusion
- ✓ References and Further Readings
- ✓ Answer Sheet